

## ABSTRACT OF THE DISCLOSURE

A system and method is disclosed for locating a mobile station in a wireless network. A distance unit associated with a base station determines a one way travel time of a range signal from the base station to the mobile station and multiplies the one way travel time by the speed of light to obtain the distance from the base station to the mobile station. The one way travel time is equal to one half of a quantity that is equal to a two way travel time of a range signal minus a time value of a random backoff parameter of the mobile station. The distance resolution of the system is approximately two hundred forty four meters.